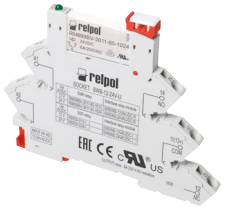
RM699BV + 6WB-...



RSR30 + 6WB-...

- Width 6,2 mm • Interface relay **SIR6WB-...** consists of: spring terminals universal socket, with electronic **6WB-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ❶
- 35 mm rail mount acc. to EN 60715 • May be linked with 20-pole interconnection strip type **JB20** • Equipped in LED green
- Accessories: separators **6W-SEP**, cards of description plates **MP6-C**
- Recognitions, certifications, directives: RoHS,

NEW

Output circuit (RM699BV) - contact data ❶

Number and type of contacts (code of output)		1 CO (R) ❸	1 CO (R01) ❸
Contact material		**$AgSnO_2$**	$AgSnO_2$/Au hard gold plating ❷
Max. switching voltage		400 V AC / 250 V DC	30 V AC / 36 V DC ❷
Min. switching voltage	AC / DC	10 V	5 V
Rated load (capacity)	AC1	6 A / 250 V AC	0,05 A / 30 V AC ❷
	AC15	3 A / 120 V; 1,5 A / 240 V (B300)	–
	DC1	6 A / 30 V DC; 0,15 A / 250 V DC	0,05 A / 36 V DC ❷
	DC13	0,22 A / 120 V; 0,1 A / 250 V (R300)	–
Motor load	acc. to UL 508	1/4 HP 240 V AC ❹	–
	AC3 acc. to IEC 60947-4-1	0,186 kW 240 V AC ❹	–
Min. switching current		100 mA	10 mA
Max. inrush current		10 A 20 ms	0,1 A 20 ms ❷
Rated current		6 A	0,05 A ❷
Max. breaking capacity	AC1	1 500 VA	1,2 VA ❷
Min. breaking capacity		1 W	0,05 W
Contact resistance		≤ 100 mΩ 100 mA, 24 V	≤ 30 mΩ 10 mA, 5 V
Max. operating frequency	• at rated load AC1	360 cycles/hour	
	• no load	72 000 cycles/hour	

Output circuit (RSR30) - output data ❶

Type of output (code of output)		Triac (T) ❸ max. 2 A	Transistor (C) ❸ max. 1 A	Transistor (O) ❸ max. 2 A
Number and type of outputs		1 NO	1 NO	1 NO
Rated voltage		240 V AC	48 V DC	24 V DC
Switching voltage range		12 ... 280 V AC	1,5 ... 60 V DC	1,5 ... 32 V DC
Rated continuous output current	AC1	1 A		
	DC1		1 A	2 A
Min. making capacity current		50 mA	1 mA	1 mA
Max. off-state leakage current (turn-off state)		1,5 mA	1 mA	1 mA
Max. on-state voltage drop on the connection (operating state)		1,2 V	0,4 V	0,24 V
Operating switching frequency			10 Hz	10 Hz

Input circuit

Rated voltage	❺ DC	6, 12, **24** V
	AC: 50/60 Hz AC/DC	12, **24**, 48, 60, 110...125, **220...240** V
Operating range of supply voltage	DC	SIR6WB-...-R/-R01: 0,8...1,2 U_n
	AC/DC	SIR6WB-...-R/-R01: 0,8...1,1 U_n SIR6WB-...-R/-R01: 0,85...1,1 U_n 6 V DC
	AC/DC	SIR6WB-...-T/-C/-O: 0,8...1,25 U_n
Rated power consumption		see Table 1

Insulation according to EN 60664-1

Insulation rated voltage		250 V AC	
Rated surge voltage		4 000 V	
Overvoltage category		III	
Insulation pollution degree		3	
Dielectric strength	• input - output	4 000 V AC	50/60 Hz, 1 min., type of insulation: reinforced
	• input - output	6 000 V	1,2 / 50 µs
	• mass - input, output	2 500 V AC	50/60 Hz, 1 min.
	• contact clearance	1 000 V AC	50/60 Hz, 1 min., output R and R01, type of clearance: micro-disconnection
Input - output distance		clearance / creepage: ≥ 6 mm / ≥ 8 mm	
Mass - output distance		clearance / creepage: ≥ 3 mm / ≥ 4 mm	

The data in bold type relate to the standard versions of the relays. ❶ Characteristics of the contact capacity of relays **SIR6WB-... with RM699BV**, **SIR6WB-... with RSR30** - see www.relpol.com.pl ❷ For gold-plated contacts - when the maximum values given have been exceeded, the gold layer is destroyed. Then, the advantages of gold-plating disappear and the values are as for $AgSnO_2$ contacts (see beside), and electrical life of these contacts may be shorter than of normal contacts. ❸ Type of outputs: **R** - contacts $AgSnO_2$; **R01** - contacts $AgSnO_2$/Au hard gold plating; **T** - triac; **C** - transistor (1 A); **O** - transistor (2 A). ❹ Contact 1 NO, single-phase motor. ❺ Note: fixed polarization of input voltage (+A1, -A2).

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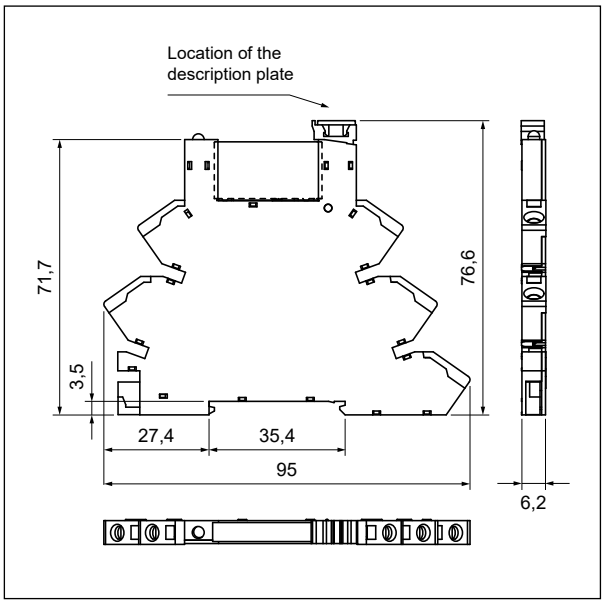
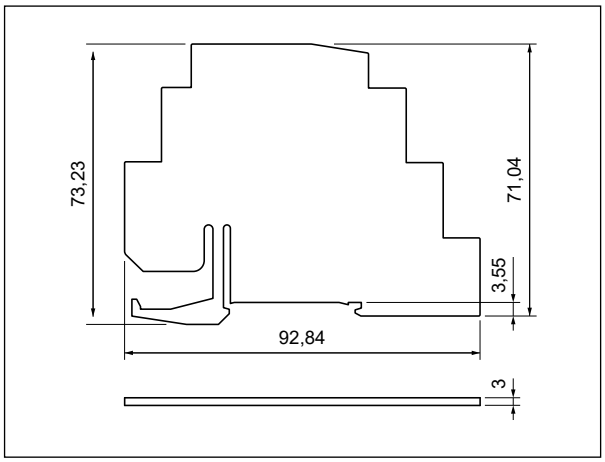
General data

Operating time (typical value)		SIR6WB-...-R/-R01: version DC: 8 ms version AC/DC: 20 ms SIR6WB-...-T: version AC/DC: 10 ms SIR6WB-...-C/-O: version AC/DC: 10 ms
Release time (typical value)		SIR6WB-...-R/-R01: version DC: 10 ms version AC/DC: 25 ms SIR6WB-...-T: version AC/DC: 30 ms SIR6WB-...-C/-O: version AC/DC: 20 ms
Electrical life	• resistive AC1	SIR6WB-...-R: > 0,5 x 10^5 6 A, 250 V AC
Mechanical life (cycles)		SIR6WB-...-R/-R01: > 10^7
Dimensions (L x W x H)		95 x 6,2 x 76,6 mm
Weight		SIR6WB-...-R/-R01: 30 g ...-T/-C/-O: 28 g
Ambient temperature (non-condensation and/or icing)	• storage • operating	SIR6WB-...-R/-R01/-T: -40...+70 °C ...-C/-O: -25...+70 °C SIR6WB-...-R/-R01: -40...+70 °C ...-T/-C/-O: -20...+55 °C SIR6WB-110-125VAC/DC-R/-R01: -40...+55 °C ❻ SIR6WB-220-240VAC/DC-R/-R01: -40...+55 °C ❻
Cover protection category		IP 20 EN 60529
Environmental protection		RTI EN 61810-7
Shock resistance		10 g
Vibration resistance		5 g 10...500 Hz

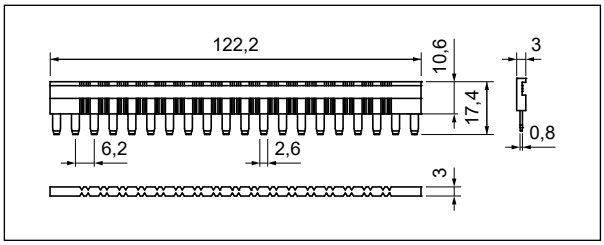
❻ For versions 110...125 V AC/DC and 220...240 V AC/DC: a distance of 5 mm must be maintained between relays operating at an ambient temperature of max. +55 °C, when they are supplied permanently or with a duty cycle > 50% (for groups of relays mounted without ventilation distances, the maximum operating temperature is max. +30 °C).

Dimensions

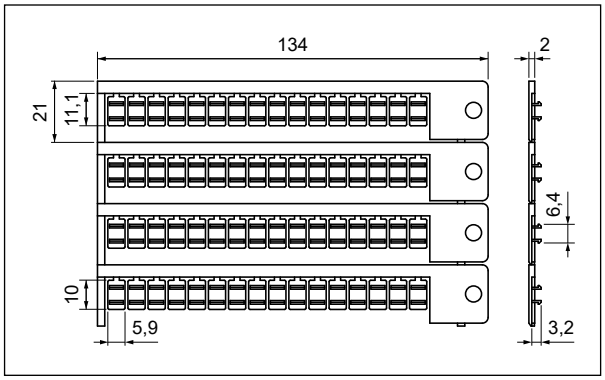




Separator **6W-SEP**



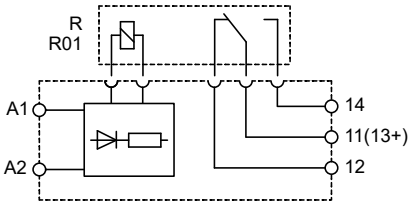
20-pole interconnection strip type **JB20**



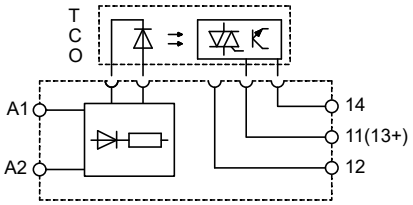
Card of description plates **MP6-C**

Connection diagrams

SIR6WB-...-R, SIR6WB-...-R01



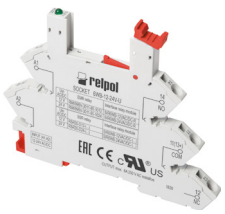
SIR6WB-...-T, SIR6WB-...-C, SIR6WB-...-O



Mounting

Relays **SIR6WB-...** are designed for direct mounting on 35 mm rail mount acc. to EN 60715. **Connections:** max. cross section of the cables: 1 x 2,5 mm^2 (1 x 14 AWG), stripping length: 7 mm.
Interface relay **SIR6WB-...** consists of: spring terminals universal socket, with electronic **6WB-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ❸.
SIR6WB-... may be linked with 20-pole interconnection strip type **JB20**. Strip **JB20** bridges common input or output signals, maximum permissible current is 36 A / 250 V AC. Colours of strips: **JB20-1** red, **JB20-2** black, **JB20-3** blue.
For **SIR6WB-...** relays we offer **6W-SEP** separators that provide: optical division of groups of interface relays, separation of group of interface relays with different supply voltages (according to VDE 0106-101), insulation for cut **JB20** interconnection strips, additional insulation from other devices in metal housings or from metal end clamps on 35 mm rails.
In the set with the **SIR6WB-...** interface relay, a single description plate is supplied, snap into tall marker groove, compatible with the standard for DIN rail terminal blocks. Cards **MP6-C** for automatic printing, containing 64 description plates, should be ordered separately.

❸ Type of outputs: **R** - contacts $AgSnO_2$; **R01** - contacts $AgSnO_2$/Au hard gold plating;
T - triac; **C** - transistor (1 A); **O** - transistor (2 A).



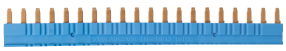
6WB-...

6W-SEP

RM699BV

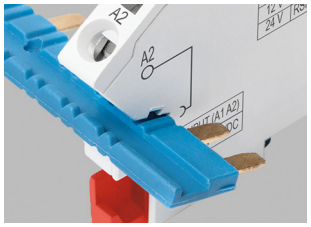
RSR30

MP6-C



JB20

Green LED:
signalling the operation status of the relay.



Interconnection strip JB20:
bridging of common input or output signals.

Movable ejector: protection and easy replacement of the operational relay.

23.12.2020

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Wire connection

The drawings present the sequence of operations in course of inserting wire to the spring terminal, and the recommended screwdriver to be used for opening of case springs, comply with the DIN 5264 FORM "A".

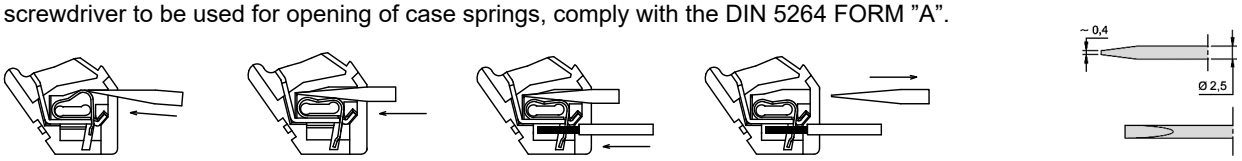

Table of codes

Table 1

Interface relay code	Rated input voltage U_n ❽	Power of input circuit at voltage U_n	Socket code for the set	Operational relay code	Rated voltage of operational relay U_s ❽
SIR6WB-6VDC-R ❺	6 V DC	0,2 W	6WB-6-24VDC	RM699BV-3011-85-1005	5 V DC
SIR6WB-12VDC-R ❺	12 V DC	0,2 W	6WB-6-24VDC	RM699BV-3011-85-1012	12 V DC
SIR6WB-24VDC-R ❺	**24 V DC**	**0,4 W**	**6WB-6-24VDC**	**RM699BV-3011-85-1024**	**24 V DC**
SIR6WB-12VAC/DC-R	12 V AC/DC	0,2 VA / 0,2 W	6WB-12-24V-U	RM699BV-3011-85-1012	12 V DC
SIR6WB-24VAC/DC-R	**24 V AC/DC**	**0,4 VA / 0,4 W**	**6WB-12-24V-U**	**RM699BV-3011-85-1024**	**24 V DC**
SIR6WB-48VAC/DC-R	48 V AC/DC	0,4 VA / 0,4 W	6WB-48-60V-U	RM699BV-3011-85-1048	48 V DC
SIR6WB-60VAC/DC-R	60 V AC/DC	0,5 VA / 0,5 W	6WB-48-60V-U	RM699BV-3011-85-1060	60 V DC
SIR6WB-110-125VAC/DC-R ❻	110…125 V AC/DC	0,7 VA / 0,7 W ❼	6WB-110-125V-U	RM699BV-3011-85-1060	60 V DC
SIR6WB-220-240VAC/DC-R ❻	**220…240 V AC/DC**	**0,9 VA / 0,86 W ❼**	**6WB-220-240V-U**	**RM699BV-3011-85-1060**	**60 V DC**
SIR6WB-6VDC-R01 ❺	6 V DC	0,2 W	6WB-6-24VDC	RM699BV-3211-85-1005	5 V DC
SIR6WB-12VDC-R01 ❺	12 V DC	0,2 W	6WB-6-24VDC	RM699BV-3211-85-1012	12 V DC
SIR6WB-24VDC-R01 ❺	**24 V DC**	**0,4 W**	**6WB-6-24VDC**	**RM699BV-3211-85-1024**	**24 V DC**
SIR6WB-12VAC/DC-R01	12 V AC/DC	0,2 VA / 0,2 W	6WB-12-24V-U	RM699BV-3211-85-1012	12 V DC
SIR6WB-24VAC/DC-R01	**24 V AC/DC**	**0,4 VA / 0,4 W**	**6WB-12-24V-U**	**RM699BV-3211-85-1024**	**24 V DC**
SIR6WB-48VAC/DC-R01	48 V AC/DC	0,4 VA / 0,4 W	6WB-48-60V-U	RM699BV-3211-85-1048	48 V DC
SIR6WB-60VAC/DC-R01	60 V AC/DC	0,5 VA / 0,5 W	6WB-48-60V-U	RM699BV-3211-85-1060	60 V DC
SIR6WB-110-125VAC/DC-R01 ❻	110…125 V AC/DC	0,7 VA / 0,7 W ❼	6WB-110-125V-U	RM699BV-3211-85-1060	60 V DC
SIR6WB-220-240VAC/DC-R01 ❻	**220…240 V AC/DC**	**0,9 VA / 0,86 W ❼**	**6WB-220-240V-U**	**RM699BV-3211-85-1060**	**60 V DC**
SIR6WB-12VAC/DC-T	12 V AC/DC	0,15 VA / 0,15 W	6WB-12-24V-U	RSR30-D12-A1-24-020-1	12 V DC
SIR6WB-24VAC/DC-T	**24 V AC/DC**	**0,3 VA / 0,3 W**	**6WB-12-24V-U**	**RSR30-D24-A1-24-020-1**	**24 V DC**
SIR6WB-12VAC/DC-C	12 V AC/DC	0,15 VA / 0,15 W	6WB-12-24V-U	RSR30-D12-D1-04-025-1	12 V DC
SIR6WB-24VAC/DC-C	**24 V AC/DC**	**0,3 VA / 0,3 W**	**6WB-12-24V-U**	**RSR30-D24-D1-04-025-1**	**24 V DC**
SIR6WB-48VAC/DC-C	48 V AC/DC	0,4 VA / 0,4 W	6WB-48-60V-U	RSR30-D48-D1-04-025-1	48 V DC
SIR6WB-12VAC/DC-O	12 V AC/DC	0,15 VA / 0,15 W	6WB-12-24V-U	RSR30-D12-D1-02-040-1	12 V DC
SIR6WB-24VAC/DC-O	**24 V AC/DC**	**0,3 VA / 0,3 W**	**6WB-12-24V-U**	**RSR30-D24-D1-02-040-1**	**24 V DC**
SIR6WB-48VAC/DC-O	48 V AC/DC	0,4 VA / 0,4 W	6WB-48-60V-U	RSR30-D48-D1-02-040-1	48 V DC

The data in bold type relate to the standard versions of the relays. ❺ Note: fixed polarization of input voltage (+A1, -A2). ❻ For versions 110...125 V AC/DC and 220...240 V AC/DC: see recommendations regarding ambient temperature during operation. ❼ Power consumption at U_n=125 V and U_n=240 V. ❽ It shall be remarked that rated input voltage of the operational relay U_s not always complies with the rated input voltage U_n (which is important on ordering operational relays for sockets).

Ordering codes

Ordering codes **SIR6WB-...** are specified in Table 1, "Interface relay code" column.

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.